tion and corroding bitterness which must inevitably follow—and that is to be the moral effect of these mean passions and unworthy motives? This idea is too painful to be carried out—but it will not willingly be thought that it can fail to have its just weight.

If space were left, it might be employed to show, that any complaint of former ill-treatment comes with a bad grace from Medical officers. They were the first to have their pay increased, and the double examination, regulated by their own will, gives security and permanency to the honor and intelligence of the corps. Something might be said, also, of the style of the paper which has been made the subject of these comments—of the sarcasm which has neither spared the honorable head of the Department, nor the late lamented Attorney General of the United States.

But let that pass—justice, as well as generosity, demands, that the principle of conduct, (the good of the service,) professed here, should be accorded to others—and as, to borrow an expression from master Shallow—"good phrases are, surely, and ever were very commendable," a pardon will be asked for adopting here, in no unaimable spirit, the novel and imposing signature of

AN "OFFICIAL-MILITARY-SEAMAN."

THE STARS.

"The poetry of Heaven.—*Byron.*

Some of the following lines were published, a few years ago, in a paper of limited circulation; since then the writer has corrected and made some additions to them.

Ye watch-fires from the citadels of heaven!
On Hesperus' dark couch triumphant gleaming!
High o'er all realms, where thunder-clouds are driven,
To th' mad roar of storms, calm listeners seeming!
Ye mock the proud presumption of our race,
To scan your bright domain; and thought may rise
Strained to its highest flight, *infinity* beyond
Th' accumulating vastness, still expanding lies.

Earth hath its history! its storied lore,
Records its crimes—its triumphs—its decay;
Its bards can vivify what is no more,
Its lyres give life to its sepulchral clay;
But like the BEING whom ye mirror forth
Unsearchable—illustriously the same!
Pitying ye watch the destinies of man,
Blush o'er his guilt, and fling derision on his fame.

Can Anger's blinding sense? rebellious Pride?
And vengeance stamping on its murdered foe?
Remorse by which the heart-springs all are dried
Which freshen man's drear pilgrimage below?
Can these be tenants of a clime so fair?
Dwells there that *Titan*-passion's dire control?
Which, writhing in its bed of flame, dethrones
The mountain-mind and makes an Ætna of the soul?

Mysterious Stars! on your unaltered faces,
The pale magicians looked of old and hoped
To read the Future, culled in their dark places,
Their poisonous weeds, and wandered, doubted, groped,
By your cold beams led on. I crave not these;
If divination's power in truth ye wear,
Tell me! portending Stars! is there a bliss above?
Enough to compensate for lights of life quench'd here?

Unsullied prototypes of those fair signs!
Woven in light on freedom's gonfalon!
Like guardian-angels' eyes, above the strife
Ye watched propitious—cheered her heroes on;
And when the struggle o'er, man knelt to bless
The God whose arm of Justice crushed the foe;
He from the skies your blazonry transferred,
The seals of smiling heaven on Freedom's cause below.

I love to contemplate your thronging ranks
And feel my smallness—and as on my gaze
Rushes your Archipelago of light,
Earth vanishes before the inspiring blaze.
Time's misty veil awhile seems drawn aside,
And there—above the darkening thrall of sense;
Ye stand—the chronicles of power divine,
Man's sceptic ken to guide to God's Omnipotence.

Edisto, S. C. B. JOHNSON.

BLANK CHARTS ON BOARD PUBLIC CRUISERS.

We give below a paper from Lieutenant Maury, on a subject of exceeding interest to "those who go down to sea in ships." The Institute, immediately after the reading of the paper, appointed a committee of officers to wait on the Secretary of the Navy to invite his coöperation with this society, by authorizing blank charts to be kept on board all public cruisers. The request was readily acceded to, and we may soon expect some of the most important results to navigation.—*Ed.*

HYDROGRAPHICAL OFFICE, *4th July*, 1843.

From the verge of perpetual snow in the arctic regions, to the ice-bound continent of the south, thousands of vessels are continually passing to and fro on every sea, and in all directions. Each one of them, every day, makes some observation, or collects some fact of importance to the science of navigation, and which, if recorded and preserved, and collected in one body, would possess great value.

Allow me to call the attention of the National Institute to this subject, as one that presents a field altogether worthy of its high calling, and in which it may labor with the sure promise of an early and abundant harvest of useful results.

If every vessel in the navy, and as many as would, in the merchant service, were each furnished with a blank chart, having only parallels and meridians drawn upon it to show latitudes and longitudes,—if their commanders were requested to lay off the tracks of their vessels upon it every day, with remarks showing the time of year, the direction of the winds, the force and set of currents, and embracing, generally, all subjects that tend in any manner to illustrate the navigation of the seas through which they sail, I have greatly mistaken

the character of American navigators, if they would not gladly lend the Society a willing hand in an undertaking so praiseworthy and useful.

Such charts would be to the science of navigation, what that presenting a series of blank squares, and known in the merchant's counting-house as the "German music chart," is to observations and facts in magnetism and meteorology; they would show at a glance what volumes of written directions could but imperfectly describe. Multiplied observations upon the winds and currents alone of the ocean, would be invaluable in pointing out the shortest routes from port to port.

It is true, every vessel is required by usage and law to keep a log, in which, whatever occurs on board, relating to the navigation of the vessel itself, should be recorded. But the observations entered there are so surrounded by irrelevant matter, that, practically, they are of but little avail to navigators generally. The task of collecting and comparing, even if the log-books were accessible, is an undertaking which few would be willing to encounter. For several months past, an officer, under direction of the Bureau of Ordnance and Hydrography, has been diligently engaged in overlooking the log-books of the navy, which are kept at the Navy Department. The object of his search was for facts relating to the gulf-stream. The books which he examined, and he examined all at the Navy Department, their proper place of deposit, run through a period of thirty-seven years, and are better kept than log-books generally are. Though every vessel that has sailed from the United States within that time has crossed the gulf-stream twice at least on every cruise, Lieut. Herndon could obtain its limits but in thirty-seven places, and the force and set of its current but in eight. Had each of these vessels, during a small portion of this time, been furnished with a blank chart after the plan proposed, the limits, force and set of this stream might have now been so arranged as to be seen at a glance, and the results of the observations of all, if compared and laid down on one general chart, would have added much to our present knowledge; for to this day, the most of our information of the gulf-stream is in what was said of it by Doctor Franklin.

But, to make us acquainted with the limits, the strength, and the changes of this wonderful ocean current, would be among the least practical of the many valuable results to be expected from the introduction of such charts among navigators. We should have better knowledge of the other currents of the ocean, their periods and their fluctuations, we should have a more correct understanding of many other phenomena, which are now but familiar mysteries to the mariner, and it would not be expecting too much, from such a multitude of observers, such a collection of facts, finally to be led from effects up to their causes.

"As an illustration of the manner in which trifling incidents at sea may be turned to account, and of the value which facts, that singly and alone are worthless, possess when collected in numbers and brought together, the use of the "bottle chart," recently published in the Nautical Magazine, might be mentioned. Forty years ago, it was proposed to navigators to throw bottles overboard often at sea, with a paper in them, stating the time and place of doing it. Up to this time, papers have been collected from about one hundred and fifty bottles thrown in the Atlantic. These patient little navigators have put us in possession of a mass of the most valuable information, touching the currents of this ocean, almost, if not quite equal in importance to all that is contained in all the books that have been written on the subject. The cruises of these bottles, show that the gulf-stream, after impinging upon the coasts of England and France, is deflected along the shores of Portugal and Spain, and from the coast of Africa back into the Gulf of Mexico. If a few glass bottles and sea-weeds thrown at random into the sea, and picked up by chance on the shore, could, when brought together, each with its own story, give us such information, what might we not expect from a multitude of navigators directed by mind and intelligence, and pursuing the same subjects of inquiry?

Though ships may not perhaps give us so faithful an account of the most of the gentler currents of the ocean as bottles do, they would give us on those charts a true record of the limits, the seasons, and the direction of winds, which are of far more importance to the navigator than the currents that cross his way. This is a fruitful field, in which rich harvests are to be gathered by the first laborers who shall enter it, determined in their patience and perseverance.

Two vessels sail together for the same place; one arrives two, three, or even twenty days before the other, according to circumstances. This is called 'luck.' And the master who makes short passages is called 'a lucky fellow.' But there is less of luck and chance in short passages, than we are generally disposed to allow. Ships at sea are governed by winds, and the winds by laws, as obedient as the planets in their rounds to the order of nature; and one captain habitually makes shorter passages than another, because he understands the operation of those laws better than his competitor; in other words, he has the benefit of more of those observations which these blank charts are intended to collect. As important as the results of such observations are, they can scarce be said to form a written branch of navigation. Except within the trades and monsoons, our knowledge as to the best routes for short passages is rather a matter of tradition among navigators, modified and improved by each one, it is true, for his own purposes and according to his own experience—at all times a dear,

but always a profitable school. To use a western phrase, this chart proposes nothing less than to *blaze a way* through the wind of the sea, by which the navigator may find the best path at all seasons.

We find two vessels sailing about the same time from one of our ports, for Rio in the Brazils, making a difference of ten, twenty, thirty, or even forty days, in their time of passage. In such cases, their tracks invariably show that they take different routes.

Now suppose, that, for the next three years, every vessel trading between this country and Brazil should be furnished with a blank chart, and at the end of that time should return it to the Institute, with her tracks upon it, and full remarks for each day at sea, as to the prevailing winds, the currents, calms, rains, phosphorescence of the sea, &c., who can estimate the amount and value to commerce of the information thus collected, when brought together and compared? We venture but little in the opinion, that the average length of passage, hence to Rio, would be lessoned one tenth. Besides such a practical and useful result, there would remain to us the benefits of all the collateral information.

It would be exceedingly interesting to put down, upon our 'chart of sailing directions' the limits of phosphorescence of the sea, as well as the average boundaries and breadth of the fresh winds for every month in the year, and to have, for what it is worth, every observation relating to the air or water that bears upon the safe and expeditious navigation of the ocean. Multiplied observations effect much; for every new fact, however trifling it may seem, that is gathered from nature or her works, is a clue placed in our hands, which assists to guide us into her labyrinth of knowledge.

A few generations past, several months was the average passage from Lima to Valparaiso. Later, the commander of a vessel performed it in a month, and for it, he was tried as a wizard before the Spanish Inquisition. I have performed it in fourteen days, which, up to that time, was the shortest passage on record. The average passage then was twenty-three or twenty-four days; but since the Vincennes led the way, it has been frequently performed in less time than she made it. I have known her to go in with a fast-sailing Englishman, just arrived on the coast, and which sailed from Callao ten days before she did. I could but attribute this difference of passage, not to luck, but to a better knowledge of the winds, which she had gained from experience and which her chart, on which her track was daily projected, would impart to any navigator at a glance.

But fully to impress the learned members of this Society, with just ideas of the great room there is for improvement in navigation in this respect, I have but to refer them to a few facts in the history of navigation between this country and Europe, and, therefore, over the most beaten parts of the ocean, where it might be supposed there is no room for improvement. Take the Liverpool packets, for instance: which of them make the shortest passages? As a general rule, those whose masters have the most experience; who have crossed the greatest number of times, and, therefore, whose general knowledge of winds and seasons supplies them with the best 'chart of sailing directions.' But his chart is made up mostly of his own observations, while the one proposed will consist of his and a thousand others. It may not be expecting too much, from such a chart, to say it would materially lessen the average of passages even over the great thoroughfare between New York and Liverpool.

Just after the Atlantic steamers first commenced to run between this country and England, there appeared, in the Southern Literary Messenger, a piece with a chart, showing the advantages of "great circle sailing" in open steam navigation—a principle, the importance of which had been generally overlooked in works of navigation, and which, before this era in practical navigation had not received that degree of attention to which it is fairly entitled, because, to vessels, propelled by the winds, it was considered of but little practical importance. This 'great circle sailing' is nothing more than an application to 'traverse sailing' of the spherical axiom, that the shortest distance between two places, different both in latitude and longitude, is not along the line of bearing, or the course from one to the other, but along the intercepted arc of that great circle which passes through them. By this chart it was shown, that the Great Western steamer, by attempting to follow the line of bearing from Bristol to New York, sailed, on her first trip, upwards of two hundred and sixty miles farther than she need to have done, and than she would have done had she laid her track, as near as practicable, to the arc of the great circle between her ports. She was furnished with a copy of this chart, and she and the other Atlantic steamers have regularly made their passages according to it ever since. The packets, too, have adopted it, as far as the winds would allow, and, in some instances, they have actually made passages to compete with the steamers in time.

Since then, a work on navigation has been published in England; and one of its chief recommendations is its chapter on 'great circle sailing.' Its author has been rewarded with a prize from the Royal Geographical Society, and the work itself extensively patronised by the Board of Admiralty, a copy of which they have ordered to be supplied to each of her Majesty's ships in commission.

A number of the Messenger containing this chart is on the table before you. By referring to it, it will be perceived that, sailing as nearly on the arc of a great circle as the land will admit, Havre

is not one hundred and fifty miles, or one day's sail, farther than Liverpool from New York, and that the great circle rout to each, as far as Cape Clear, is precisely the same. The average packet passage from Liverpool to New York is thirty-five days, and, from Havre, one hundred and forty-five miles further, forty-four days. What should cause this difference of nine days? I have never been able to account for it in any other way than by supposing—and which I believe is the case—that the Havre packets, because it is out of their *course*, think it is out of their way, to make Cape Clear on their return voyage, and that, by attempting the direct course, they consequently increase their distance, and meet with less favorable winds on this, the southern route.

"A blank chart, kept on board each of the European packets—and there is one arriving at, or departing from New York on an average of every thirty hours—and returned to the Institute after a few voyages, could not fail to throw valuable light on this subject.

The cases cited and offering such an inviting field for labor, are drawn from the most frequented parts of the ocean. Not to detain the Society longer, by dwelling on other advantages, not less obvious, it may be asked, if such be the room for improvements in the directory of the most frequented parts of the ocean, what may not be expected from those parts that are less travelled, and, therefore, less known?

Such is the rude state of this branch of navigation, or, more technically, in the sailing directions for the Ocean, that if a vessel, which had never been there before, were now to leave this place for the West Indies, or other parts equally as much frequented, the chances are that she would no where find among the nautical works of the day any directions as to her best route. If she found any thing said of it at all, it would be merely a casual remark incidental to some other subject. She might, indeed, find on the chart the track of some vessel, that made the voyage fifty or more years ago, but quite at another season of the year, and, therefore, more calculated to mislead than to guide. Captain Cook's track is still retained on the charts of those parts of the ocean over which he sailed, and is often the only track published. I have just received a set of the latest publication of English admiralty charts. Captain Carteret's track in 1787, and Admiral Boscawen's, are the only ones laid down around the Cape of Good Hope. In the case of the vessel, supposed to sail to the West Indies, she may have a passage of ten, twenty, or thirty days, according to the route she takes, and, as before intimated, the "sailing directions" as to her best route is rather a matter of tradition among seamen, than a written branch of navigation; and some old cruiser to the West Indies, rather than any book, would be consulted as to the best route.

It is a source of great satisfaction to the navigator, particularly on his first voyage to any part of the world, to find that the track engraved on his chart was made at the season of the year in which he happens to make his voyage. Whether it indicates the shortest route, is another question; the probabilities are that it does not, for it is for the most part the track of some early navigator, and his only voyage over the regions crossed, and, therefore, made very much at random; nevertheless, in the absence of others, it is highly useful. But if the tracks of Cook, Carteret, and Boscawen, made on their random cruisages from sea to sea, during the last century, are valuable to the navigator of the present day, because they afford him not only the best, but often the only information as to the navigation of the latitudes in which he may be sailing, in what estimation would he not hold a chart that contained nothing but the tracks of vessels passing over it at all seasons and in all directions, each one giving a full and faithful account of winds, currents, &c., encountered by him?

But, to confine the advantages of 'charts of sailing directions' to one single point: If, by a systematic record, of a few every-day remarks upon the winds and currents of the ocean, the Institute should be enabled to point out to the Havre packets a route, by which the remarkable difference of passage between them and the Liverpool line should be removed, it would be doing nothing less than lifting up a great kingdom of people, and placing them, with their arts and sciences, their wants and supplies, a week nearer in communication with us;—nothing less than drawing around two Christian nations, with all the force that commerce and its multiplied interests can give, closer ties of friendship and stronger bonds of peace.

Such, at least, in kind, if not in degree, are some of the most palpable advantages to be derived from the plan, now proposed for the consideration of the Institute.

Every sailor carries with him to sea, for certain purposes of his own, a *carte blanche*, and, therefore, there is nothing new to him, at least, in the idea of a blank chart; neither do I pretend to any thing like novelty in the matter. Although blank charts have been partially and frequently used on board ships at sea, I know of no systematic attempt that has been made, at least in this country, to collect the information suggested, either upon the plan proposed, or in any other regularly organized and extensive system, reaching to all classes of vessels. Should the Institute deem the subject worthy of its attention, it is hoped it will act, irrespective of any opinion here expressed, by the means and mode, which to it may appear the most suitable.